

1 Claims 10, 14, 21 and 29 are amended.

2 Claims 1-6, 9-15 and 17-31 remain in the application as follows:

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4 **1. (Previously Presented)** A system for managing changes in state of a
5 navigation-based application, comprising:

6 a local computer implemented journal engine for maintaining a journal,
7 wherein the journal is associated with a container that navigates to and hosts a
8 resource and the resource includes a mechanism that stores a journal entry in the
9 journal,

10 wherein the journal entry includes information about a change in state of
11 the resource and the journal entry restores the resource to the state prior to the
12 change,

13 wherein the journal maintains navigation-related information about
14 locations to which a user has navigated and provides users backward and forward
15 access to:

16 (1) navigation activities in which the user has navigated backward and
17 forward through distinct resources, and

18 (2) activities where a user has not conducted a physical navigation away
19 from a resource but rather has changed a state of a resource,

20 wherein the backward and forward access is implemented using stack-based
21 techniques, wherein:

22 individual journal entries are replayed to return a new journal entry
23 that undoes a previously-performed action, wherein:
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1 if the new journal entry is being replayed as a result of a backward
2 navigation, an associated returned journal entry is placed in a forward stack, and

3 if the new journal entry is being replayed as a result of a forward
4 navigation, an associated returned journal entry is placed in a back stack.

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6 **2. (Original)** The system recited in claim 1, wherein the change in
7 state of the resource is initiated by input from a user interacting with the resource.

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9 **3. (Original)** The system recited in claim 1, wherein the resource is
10 associated with a navigation-based application.

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12 **4. (Original)** The system recited in claim 2, wherein the navigation-
13 based application comprises a plurality of resources and includes a mechanism for
14 navigating among each of the plurality of resources.

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16 **5. (Original)** The system recited in claim 3, wherein the navigation-
17 based application is browser-hosted.

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19 **6. (Original)** The system recited in claim 3, wherein the navigation-
20 based application is stand-alone.

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22 **7.-8. (Canceled).**

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24 **9. (Original)** The system recited in claim 1, wherein the resource
25 further includes a mechanism for altering the state of the resource.

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2 **10. (Currently Amended)** A plurality of computer executable
3 components embodied on a computer-readable storage medium for managing
4 changes in state of a navigation-based application, the plurality of computer-
5 executable components comprising:

6 a resource including a mechanism for altering a state of the resource from a
7 first state to a second state; and

8 an instance of a journal entry class having a method for restoring the
9 resource from the first state to the second state,

10 wherein the method further creates a [[second]] journal entry to undo the
11 restoration of the resource from the first state to the second state,

12 wherein the method adds to a forward stack when the method is called on a
13 back navigation, and adds to a back stack when the method is called on a forward
14 navigation,

15 wherein the journal entry comprises part of a journal that maintains
16 navigation-related information about locations to which a user has navigated and
17 resources whose state has been changed by the user, and provides users backward
18 and forward access to:

19 (1) navigation activities in which the user has navigated backward and
20 forward through distinct resources, and

21 (2) activities where a user has not conducted a physical navigation away
22 from a resource but rather has changed a state of a resource,

23 wherein the backward and forward access is implemented using stack-based
24 navigation techniques, wherein:
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individual journal entries are replayed to return a new journal entry that undoes a previously-performed action, wherein:

if a new journal entry is being replayed as a result of a backward navigation, an associated returned journal entry is placed in a forward stack, and

if the new journal entry is being replayed as a result of a forward navigation, an associated returned journal entry is placed in a back stack.

11. (Previously Presented) The computer-readable storage medium of claim 10, wherein the resource is further configured to cause the journal entry to be added to a journal that includes information about navigations among a plurality of resources.

12. (Previously Presented) The computer-readable storage medium of claim 10, wherein the resource is a component of the navigation-based application.

13. (Previously Presented) The computer-readable storage medium of claim 10, wherein the navigation-based application includes a plurality of resources that are hyperlinked together.

14. (Currently Amended) A data structure embodied on a computer-readable storage medium, the data structure comprising:

a journal entry having a Replay method, wherein the Replay method restores a resource from a first state to a second state, wherein the Replay method further creates a second journal entry to restore the resource from the second state to the first state,

wherein the journal maintains navigation-related information about locations to which a user has navigated and provides users backward and forward access to:

(1) navigation activities in which the user has navigated backward and forward through distinct resources, and

(2) activities where a user has not conducted a physical navigation away from a resource but rather has changed a state of a resource,

wherein the backward and forward access is implemented using stack-based techniques, wherein:

individual journal entries are replayed to return a new journal entry that undoes a previously-performed action, wherein:

if the new journal entry is being replayed as a result of a backward navigation, an associated returned journal entry is placed in a forward stack, and

if the new journal entry is being replayed as a result of a forward navigation, an associated returned journal entry is placed in a back stack.

15. (Previously Presented) The computer-readable medium storage of claim 14, wherein the resource comprises a component of a navigation-based application.

16. (Canceled).

17. (Previously Presented) The computer-readable storage medium of claim 14, wherein the journal is associated with a window of a navigation-based application.

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2 **18. (Previously Presented)** The computer-readable medium of claim
3 14, wherein the journal is associated with a session.

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5 **19. (Previously Presented)** The computer-readable storage medium of
6 claim 18, wherein the session comprises a browser session.

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8 **20. (Previously Presented)** The computer-readable storage medium of
9 claim 18, wherein the session comprises a lifetime of the navigation-based
10 application.

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12 **21. (Currently Amended)** A software architecture embodied on a
13 computer-readable storage medium for managing changes in state of a navigation-
14 based application, the software architecture comprising:

15 an internal system that supports the maintenance of entries in a journal,
16 wherein the journal maintains state information related to navigations among
17 resources in a navigation-based application; and

18 a set of interfaces that support the inclusion of entries in the journal,
19 wherein the journal entries are related to non-navigation activity,

20 wherein the journal maintains navigation-related information about
21 locations to which a user has navigated and provides users backward and forward
22 access to:

23 (1) navigation activities in which the user has navigated backward and
24 forward through distinct resources, and
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(2) activities where a user has not conducted a physical navigation away from a resource but rather has changed a state of a resource, wherein the backward and forward access is implemented using stack-based techniques, wherein:
individual journal entries are replayed to return a new journal entry that undoes a previously-performed action, wherein,
if the new journal entry is being replayed as a result of a backward navigation, an associated returned journal entry is placed in a forward stack, and
if the new journal entry is being replayed as a result of a forward navigation, an associated returned journal entry is placed in a back stack.

22. (Previously Presented) The software architecture recited in claim 21, wherein the set of interfaces includes an AddEntry method for adding a journal entry to the journal.

23. (Original) The software architecture recited in claim 21, wherein the set of interfaces includes a RemoveEntry method for removing a journal entry from the journal.

24. (Original) The software architecture recited in claim 23, wherein the RemoveEntry method is further configured to remove a journal entry from a Back stack portion of the journal.

1 **25. (Original)** The software architecture recited in claim 21, wherein the
2 set of interfaces is provided by a base class having a Name property that identifies
3 a name of the journal entry in the journal.
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5 **26. (Original)** The software architecture recited in claim 21, wherein the
6 set of interfaces is provided by a base class having a Replay method configured to
7 restore a resource from a first state to a second state.
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9 **27. (Original)** The software architecture recited in claim 26, wherein the
10 Replay method is further configured to create and return a second journal entry for
11 inclusion in the journal.
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13 **28. (Original)** The software architecture recited in claim 27, wherein the
14 second journal entry is configured to restore the resource from the second state to
15 the first state.
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1 **29. (Currently Amended)** A computer-readable storage medium
2 encoded with instructions executing on a computer, wherein the instructions
3 perform steps comprising:

4 receiving a notification to add a journal entry to a journal, wherein the
5 journal entry is associated with a resource and the journal entry includes
6 information to restore the resource from a first state to a second state, wherein

7 the first state is associated with a first set of characteristics of the resource
8 and the second state is associated with a second set of characteristics of the
9 resource; and

10 adding the journal entry to the journal,

11 wherein the journal maintains navigation-related information about
12 locations to which a user has navigated and provides users backward and forward
13 access to:

14 (1) navigation activities in which the user has navigated backward and
15 forward through distinct resources, and

16 (2) activities where a user has not conducted a physical navigation away
17 from a resource but rather has changed a state of a resource,

18 wherein the backward and forward access is implemented using stack-based
19 techniques, wherein:

20 individual journal entries are replayed to return a new journal entry
21 that undoes a previously-performed actions, wherein:

22 if the new journal entry is being replayed as a result of a backward
23 navigation, an associated returned journal entry is placed in a forward stack, and

24 if the new journal entry is being replayed as a result of a forward
25 navigation, an associated returned journal entry is placed in a back stack.

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2 **30. (Previously Presented)** The computer-readable storage medium of
3 claim 29, wherein the journal entry further comprises a mechanism for restoring
4 the resource from the second state to the first state.

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6 **31. (Previously Presented)** The computer-readable storage medium of
7 claim 30, wherein the mechanism is configured to create a second journal entry
8 having sufficient information to restore the resource from the second state to the
9 first state.
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